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## III.—NEW PLANTS FROM NORTH DAKOTA.

BY J. LUNELL.

### *Solidago dumetorum* sp. nov.

Caules 5-10 dm. alti, dense et minutatim pubescentes vel scabri per totam superficiem, praecipue autem in parte superiore, striati, robusti, recti, valde foliosi. Folia firma, crassula, admodum tri-costata, ambobus lateribus scabra vel breviter pilosa, eoque magis in nervis strigosa, et per totam laminam inferiorem dense pubescentia, acuminata, lanceolata vel latiora, in parte dimidia marginis exteriore serrata, aspero-ciliata, media 1 dm. longa, 2 cm. lata. Capitula 4-5 mm. alta (vel magis), in paniculum amplum, pilosum conferta. Bractee involucri late lineares vel deltoideae, zona viridi media exornatae.

Stem 5-10 dm. high, closely and minutely pubescent throughout, the more so in the upper part, striate, stout, strict, very leafy. Leaves firm, thickish, strongly triple-veined, scabrous or short-pilose on both sides, with a pubescence still more prominent on the veins, and rather close and appressed on the whole of the lower surface, taper-pointed, lanceolate or broader, serrate above the middle, rough-ciliate, the middle ones 1 dm. long, 2 cm. wide. Heads 4-5 mm. high, or more, crowded in an ample, pubescent panicle. Involucral bracts broadly linear or deltoid with a green zone in the middle.

This plant belongs to the same group as *S. elongata* Nutt., which has nearly glabrous, sub-entire, obscurely 3-nerved leaves, an elongated panicle and linear-subulate involucral bracts, and *S. Pitcheri* Nutt., which has a stem glabrous up to the inflorescence, larger heads, and leaves more sharply serrate and glabrous except on the margins and on the mid-veins. The *S. Pitcheri* of this region

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\* May 15, 1911.—Pages 57 to 72.

is not altogether typical. Specimens collected by me at Pingree, Stutsman County, are glabrous on the nerves of the upper sides of the leaves, otherwise typical, and plants from other localities, as Turtle Mountains, Minot, Towner, Peninsula of Lake Ibsen, etc., have the mid-veins glabrous on both sides. [*S. serotina* Ait. (?)].

The plant here described grows in the rich soil of the outskirts and the thickly wooded parts of the Turtle Mountains, wherethe type was collected by the writer in Bottineau County on July 23, 1902.

*Solidago satanica* sp. nov.

Caules 6-8 dm. alti, superne scabri et minutatim pulverulenti, infra glabrati (rami inflorescentiae cinereo-puberulenti), simplices vel in parte dimidia superiore uberrime ramosi, valde foliosi. Folia lanceolata, superne pubescentia minuta et appressa vestita vel scabra, subtus molliter et dense cinereo-pubescentia, conspicue tri-nervata, serrata vel superiora quidem integra. Capitula 3 mm. alta. Bracteae involucri lineari-lanceolatae, viridi-flavescentes.

Stems 6-8 dm. high, scabrous or minutely puberulent above, glabrate below (branches of the inflorescence cinereous-puberulent), simple or copiously branching above the middle, very leafy. Leaves lanceolate, minutely and appressedly pubescent or scabrous above, softly and densely cinereous-pubescent beneath, prominently 3-ribbed, serrate or the upper entire. Heads 3 mm. high. Involucral bracts linear-lanceolate, greenish-yellow.

A plant nearly related to this is *S. canadensis* L., which differs mainly in having its leaves narrowly lanceolate, glabrous above, and a minute pubescence on the nerves beneath, and narrowly linear involucral bracts. *S. proserpa* Ait. has leaves with looser pubescence and with distinct soft hairs, and its heads are larger. *S. scabriuscula* (Porter) Rydb. has shorter, broadly lanceolate leaves, rugose beneath, and the heads are larger. *S. gilvocanescens* Rydb. has broad, pale leaves, yellow-canescient on both sides.

The plant just described was found late in the season within the forest surrounding Devil's Lake, Ramsey County, and it was named because found in this romantic region. The foliage was dark green in deep shade and remarkably light green in the open woodland. The lower half or the lower two-thirds of the stems were covered with faded leaves or denuded, but this deficiency does probably not detract a great deal from the completeness of this description.

*Oligoneuron bombycinum* sp. nov.

Caules numerosi, de rhizomate crasso, perenni adscendentes, rigidi, simplices, densa, molli, alba pubescentia vestiti, valde foliosi, parte inferiore laminis petiolorum magis minusve involuti. Folia oblonga, crassa et rigida, marginibus integris, leviter vel nequaquam scabris, pubescentia mollissima, alba ambobus lateribus amicta, superiora quidem parva, sessilia, amplexantia, inferiora autem vehementer maiora et petiolis longis, alatis ornata. Folia basilaria longiores tamen petiolos habent, non alatos. Involucra 6-8 mm. alta, cymum compactum, terminalem sicut capitulum compositum formantia. Bractee involucri oblongae, puberulentae, pallide viridi-flavescentes. Flores radiati saturate flavi.

Stems numerous, 2.5-3.0 dm. high, ascending from a thick, perennial root-stock, stiff, simple, with a thick, soft, white pubescence, very leafy, the lower part more or less enveloped in the sheaths of the leaves. Leaves oblong, thick and rigid, with entire, slightly or not at all scabrous margins, and with a soft, velvety, white pubescence on both sides, the upper small, sessile, clasping, the lower considerably larger, with long, winged petioles. The basal leaves have still longer petioles, not winged. Involucres 6-8 mm. high, in a terminal, compact cyme having the appearance of a compound head. Involucral bracts oblong, puberulent, pale greenish-yellow. Rays deep yellow.

The soft, velvety pubescence of the stems and leaves is the principal character segregating this species from *O. rigidum* which is rough throughout. If *O. rigidum* grows exclusively in dry soil, *O. bombycinum* seems to prefer a moderate degree of moisture in the soil. The description is based on a specimen collected by the writer on September 9, 1910 at Butte, Benson County, where—if luck is not adverse—an occasional find recompenses the assiduous, indefatigable seeker.

*Euthamia camporum* var. *tricostata* var. nov.

Folia conspicue trinervata; insuper duo nervi minus prominentes exteriores saepe accedunt. Inflorescentia est valde glutinosa.

Leaves prominently tri-nerved; in addition, another faint external pair of nerves can often be seen. Inflorescence very glutinous.

This beautiful plant grows in wet meadows and boggy ravines and was collected by the writer at Leeds, Benson County, August 23, 1898, being seemingly the only representative of the genus *Euthamia* in central North Dakota.

Leeds, North Dakota.

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### THE TYPE OF THE GENUS PANICUM.

BY J. A. NIEUWLAND.

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Article 45, section 6 of the rules of the Vienna Congress makes provision for the segregation of the natural genera from older more or less composite ones. It has been shown by A. A. Eaton\* that in case of the genera *Serapias* and *Epipactis* a blunder had been made so that the type of the original group was put in the segregate genus. The reasoning of Mr. Eaton is as follows: "The genus *Serapias* of Linnaeus is composite consisting of *Cephalanthera*, *Epipactis* (Adanson em. R. Br., not Böhmer) and *Serapias* as restricted by Swartz. The first two genera have been segregated, and the residue of the original genus now bears the name. It has been customary to leave the final residue of segregation the original name, but this is contrary to Article 45 of the Vienna Code provided the type or origin of the group is not contained aggregate consisting of species of *Cephalanthera* and *Epipactis* Adans., genera shown by Wettstein to be inseparable. This type is fixed by Linnaeus in Gen. Pl. Ed. 5, (1754.) as t. 245 of Tournefort which represents *S. grandiflora*. The name *Serapias* must then be restored to the *Cephalanthera-Epipactis* group."

The case of the Linnaean genus *Panicum* is quite similar. The type of the genus *Panicum* is not at present in what is called *Panicum* by the authors, but rather in the segregated *Chaetochloa* or *Ixophorus* or *Setaria* etc. (or whatever synonyme is preferred.) The segregate has not fared well from the very start since wrongly made up by Beauvais, and has passed through all the throes of synonymy and homonymy. The name *Panicum* should therefore, be given to this group that contains the undisputed type, *Panicum*

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\* Eaton, A. A. Proc. Biol. Soc. Washington, XXI, [1908] p. 63-68. also Fedde, F. Rep. Novar. Spec. [1908] VI. p. 45.

*italicum* Linn. The other group is then the residue though at present containing the larger number of species, and as it has never to my knowledge received a name one should be given it.

Linnaeus, neither in the *Species Plantarum* of 1753 nor in the *Genera Plantarum* of 1754 indicated which species he considered the type of his composite group. His genera were usually so heterogeneous that an average representative plant could not have served as such, but in the *Philosophia Botanica*\* he left us his impressions as to what his followers were to do should they find it necessary to break up his so called genera into their original natural genera. We are justified then in appealing to Linnaeus at his own suggestion or direction for the method to be used and the only reasonable one for such a procedure as the segregation of a genus. By the study of the pre-Linnaean authors it is not difficult to pick out the type species, especially when we can trace the plants back to the author who first named or discovered them. Dr. E. L. Greene† has pointed out this method, in the case, for instance of the genus *Draba*, and often this way is the only one for arriving at the correct idea of the types. If then for no other reason than this, the study of pre-Linnaean works has become an indispensable requisite for taxonomists, even for such as conform blindly to the 1753 "starting point." Study of post-Linnaean authors helps only when we are sure that they conform to the reasonable method of returning to the genera held by botanists prior to 1753. If the authors afterwards made blunders without designating types then the mistakes are to be corrected by the appeal to the older writers.

The type of the genus *Panicum* and the plant to which the name *Panicum* was first applied by Pliny is indisputably the plant which Linnaeus and others before him called *Panicum italicum*. A survey of the pre-Linnaean authors leaves no doubt whatever of this fact.‡ Though Caesalpinus says that the derivation of

\* Linnaeus, C., *Philosophica Botanica* 1st ed. 1751 also 2nd ed. 1755 pp 197, 198 in both.

† Greene, E. L., *Pittonia* Vol. 4, p. 203.

‡ *Panicum italicum*, sive panicula majore, Bauhin, C. Pinax, 27. *Panicum*, Dodonaeus R. Pempt. p. 497-498. *Panicum sativum* Cusa, Lugd. *Panicum vulgare* Clusius C., Hist. *Panicum indicum* Tabernaemontanus, J. T., Kreutterbuch. (1625) p. 639. also Gerard's Herbal. *Panicum* Caesalpinus, A. De Plantis (1583) p. 189. *Panicum* Marcellus Vergilius. Com. Ped. Diosc. 1529. p. 239. *Panicum* Herm. Barbarus Coroll. in Diosc. (1530)

the name comes from the fact that the fruit is in panicles, Pliny states that a kind of poorer grade of bread (*panis*) was made from the plant, and it is the general opinion that Pliny's plant was *P. italicum*.

What seems all the more strange that Beauvais should have mistaken the type in his attempt at segregation, is that even in the editions of the Species Plantarum of Linnaeus the members of the group to which *P. italicum* belongs are described by Linnaeus before those to which the name is now given, so that this is additional reason to suppose that even Linnaeus if he could be supposed to give preference to types, hereby showed a preference by right of position at least. I can only guess that the reason, if any exists, why Beauvais should have considered the *Setaria* group as real *Panica*, to have been what their panicles were more typical in the modern sense of the word, but the explanation of the origin of the derivation just given explains this. Even the name *Setaria* could not stand as it is a homonym, Acherson having given it to a group of lichens in 1798. Scribner recognizing this, called the genus *Chaetochloa*, but it had already been given a name, *Ixophorus* by Schlechtendal in 1861-62. Kuntze\* in his Revisio Plantarum Generum suggested a name *Chamaeraphis* of Robert Brown, but this simply amounts to joining the *Setaria* of Beauvais to the other genus, and there are those who hold that they are quite separate and distinct groups of plants. The new Gray's Manual of Fernald and Robinson still holds to the name *Setaria*, as also does Mr. Parrish† both appealing to the international laws of nomenclature, in spite of the fact that the name is a homonym. In view of the appeal of Mr. A. A. Eaton to Art. 45, in the case of *Epipactis* to which the case of *Panicum* and *Chaetochloa* seems to me to be a parallel, it would appear that the Vienna Code needs

\* Kuntze, O. Rev. Pl. II., p. 766.

† Parrish, S. B. Muhlenbergia. Vol. V. p. 114.

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p. 34. *Panicum* Chabraeus, D. Stirp. Sciagraph. (1677) p. 178. *Panicum* Ruellius De Nat. Stirp. (1543) p. 322. *Panicum aliud Indicum* Lobelius. M. Observ. (1576) p. 25. *Panicum Matthioli*, P. A. Com. sex. Lib. Diosc. (1559) 255, 256. also do, (1554) p. 230. also do, (1552) p. 229. *Panicum Italicum* sive paniculo majore, Tournefort. J. P. Inst. Rei. Herb. (1700.) a. Fig. 298. also Els. Bot. (1694.) p. 417. & Fig. 298. etc. etc. *Panicum* Dodonaeus, R. Frum. Leg. (1564.) p. 69. also do. Com. de Stirp. (1559) p. 11. also do. Hist. des Plantes (1557) 317, 318.

some explanatory commentary, or at least a few more specific dogmatic or arbitrary decisions; for this would be the only way out of the difficulty of contradictory rules unless they be abrogated and this is not likely for a while at least.

In any case, the only reasonable way out of the predicament is to restore the name *Panicum* to the group of plants to which it was applied as far back as nearly two thousand years ago. Even the interpretation of the Vienna Code requires this. *Setaria* was conceived in falsehood, it is itself a homonym and the attempts to correct the mistake have so far resulted in at least one other synonyme, so that there would seem to be little reason to perpetuate a blunder when we can easily correct the mistake, the Vienna Code favoring. As the matter now stands the name *Panicum* rightly belongs to the plant group that contains *Panicum italicum* Linn., which is now called *Ixophorus italicus* (Linn.) Nash., *Chaetochloa italica* (Linn.) Scrib., or *Setaria italica* (Linn.) R. & S. This procedure leaves the other genus hitherto called *Panicum* by the authors, without a name, as far as I am able to ascertain, and I propose that of *Chasea*. Following is the synonymy of the genera. I shall indicate only a few of the transferred plants under the new name.

PANICUM (Pliny) Linn., 1753.

*Setaria* Beauvais, 1812 not Achers., 1798.

*Ixophorus* Schlecht., 1861-62,

*Chaetochloa* Scribner, 1791.

*Chamaeraphis* [R. Br. 1810 (?)] O. Kuntze, 1891.

PANICUM ITALICUM Linn. 1753.

*Setaria italica* (Linn.) R. & S. 1897.

*Ixophorus italicus* (Linn.) Nash, 1895.

*Chaetochloa italica* (Linn.) Scrib., 1897.

*Chamaeraphis italica* (Linn.) Kuntze, 1891.

PANICUM VIRIDE Linn., 1762.

*Setaria viridis* (Linn.) Beauv., 1812.

*Ixophorus viridis* (Linn.) Nash, 1895.

*Chamaeraphis viridis* (Linn.) Porter, 1893.

*Chaetochloa viridis* (Linn.) Scribn., 1897.

PANICUM GLAUCUM Linn., 1753.

*Setaria glauca* (Linn.) Beauv. 1812.

- Ixophorus glaucus* (Linn.) Nash, 1895.  
*Chamaeraphis glauca* (Linn.) Kuntze, 1891.  
*Chaetochloa glauca* (Linn.) Scribn. 1897.  
*Pseudoraphis glauca* (Linn.) Griff. 1851.

PANICUM VERTICILLATUM Linn., 1762.

- Setaria verticillata* (Linn.) Beauv., 1812.  
*Ixophorus verticillatus* (Linn.) Nash. 1895.  
*Chamaeraphis verticillata* (Linn.) Porter, 1893.  
*Chaetochloa verticillata* (Linn.) Scribn., 1897.

PANICUM OCCIDENTALE (Nash.) Nwd.

- Chaetochloa occidentalis* Nash, 1901.

PANICUM VERSICOLOR (Bick.) Nwd.

- Chaetochloa versicolor* Bicknell, 1898.

CHASEA *nov. nom.*

- Panicum* of the authors not of Linnaeus or only in part.

CHASEA CLANDESTINA (Linn.) Nwd.

- Panicum clandestinum*. Linn., 1753.

CHASEA DICHOTOMA (Linn.) Nwd.

- Panicum dichotoma* Linn., 1753.

CHASEA PUBESCENS (Lam.)<sup>1</sup> Nwd.

- Panicum pubescens* Lam. 1797.

CHASEA ANGUSTIFOLIA (Ell.) Nwd.

- Panicum angustifolium* Ell., 1817.

CHASEA VIRGATA (Linn.) Nwd.

- Panicum virgatum* Linn., 1753.

CHASEA AMARA (Ell.) Nwd.

- Panicum amarum* Ell. 1817.

CHASEA VIOLACEA (Linn.) Nwd.

- Panicum violaceum* Linn., 1753.

CHASEA PROLIFERA (Lam.) Nwd.

- Panicum proliferum* Lam., 1797.

CHASEA CAPILLARIS (Linn.) Nwd.

- Panicum capillare* Linn., 1753.



CHASEA FLEXILIS (Gatt.) Nwd.

*Panicum flexile* (Gatt.) Scrib. 1893.

*Panicum capillare* var. *flexile* Gattinger, 1887.

Other plants belonging to the group are *P. patens* L.; *P. latifolium* Linn., *P. brevifolium* Linn., and many more.]

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#### TERATOLOGICAL NOTES.

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#### IV.—Frequent Occurrence of a Third Pseudocardinal in the Right Valve of Certain Species of *Lampsilis*.

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During the past four years, I have examined the hinge areas of a large number of *Unionida*, and have been much impressed with the fact that the dentition of these freshwater mollusks is very variable, not only within the family and within the genus, but even within the species. That considerable variation exists is to be expected, since it is generally conceded that the teeth of *Pelecypoda*, being largely moulded by the dynamics of situation, change with the influences to which their form is due, and in the course of time may become obsolete from disuse, as in *Anodonta*\*, or may simulate those of other groups. As a rule, however, the type of dentition is pretty constant for the various families and genera, so that they may be given a definite dental formula. The freshwater mussels are schizodont in their dentition, their hinge teeth, when present, consisting of a subumbonal and a lateral series, known as pseudocardinals and pseudolaterals. The ligament is external, parivincular and opisthodontic. *Unionida* are distributed in the lakes, ponds, and streams throughout the entire world, and in the Mississippian region of America we find their metropolis.

In his Synopsis, the only comprehensive recent work dealing with the great family of Naiades, Simpson† defines the dentition of the genus *Lampsilis* in the following characterization: "Hinge with one or two pseudocardinals and one lateral in the right valve, and two pseudocardinals and two laterals in the left." Other

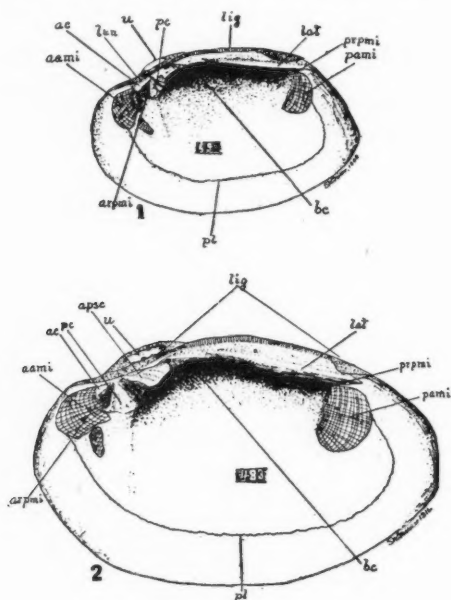
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\* Dall, W. H. in von Zittel, Karl A. Textbook of Palaeontology, Eastman's Translation I (2): 353-354. (1900).

† Simpson, Charles Torrey. Synopsis of the Naiades, or Pearly Fresh-Water Mussels. Proc. U. S. Nat. Museum XXII: 526. (1900).

writers on the genus have subsequently given practically the same definition. However, within this genus there are a number of notable departures from the typical generic dentition, as exemplified in the type, *Lampsilis ovata* (Say) Rafinesque, and in the groups of *L. (Proptera) gracilis*, *L. (P.) amphichæna*, and *L. (P.) leptodon*, we find species having the pseudocardinals, laterals, often rudimentary or almost wanting.

In the accompanying figures are shown the normal right valve of *L. ligamentina* (Fig. 1.) and a right valve of the same



species in which there is a strongly developed third pseudocardinal. (Fig. 2). Each valve in this species has normally two pseudocardinals, with two laterals in the left, and one in the right valve. The pseudocardinals on the left valve are nearly equal in size, and are solid, triangular, and marginally crenulate. In the right valve the anterior pseudocardinal is very small (see figure); the posterior is large, triangular, and crenulate. The laterals are strong and direct and are curved post-ventrally, and show on

their edges a transverse striation commonly to be observed in many *Uniones*.

Most of the *Unionidae* now in the Museum of the Upper Iowa University were collected in the Wapsipinicon River near Independence, Iowa. A considerable number of the specimens, especially those referable to such abundant and widely distributed species as *L. ligamentina*, *L. recta*, and *L. ventricosa*, show to a greater or less extent the development of a third tooth, just behind the normal posterior pseudocardinal (*pc* in figures). A large series of specimens shows the development of this third tooth in a number of species. It varies in size from a simple rounded caruncle on the usually smooth dental bridge, to a tooth as large or even larger than the normal posterior pseudocardinal. At Figure 2 is shown such a specimen, No. 483, U. I. U. Museum. The third tooth (*apsc* in Fig. 2), is very strongly developed. The connecting bridge, instead of being smooth, is raised into a sharp ridge, appearing a little as if it might be a rudimentary second lateral. The normal lateral tooth does not differ in any material respect from those in specimens in which the third pseudocardinal is not developed.

It is impossible at the present time to say whether this abnormality is caused by unfavorable embryonic conditions thus being truly teratologic. I am inclined to think, however, that it is merely a reversion, since it occurs so commonly among the freshwater mussels. True teratism, such as transposition of the teeth, etc., occurs quite rarely, and but little is known at the present time as to the causes of such abnormalities. Its study offers an interesting field for qualified workers.

Samuel W. Geiser,  
Fayette, Iowa.

#### EXPLANATIONS OF THE FIGURES.\*

Fig. 1. Normal right valve of *Lampsilis ligamentina* (Lam.)

Fig. 2. Right valve of *Lampsilis ligamentina*, showing third cardinal tooth. *aami*, anterior adductor muscle impression; *ac*, anterior pseudocardinal; *apsc*, third pseudocardinal; *arpmi*, anterior retractor pedis muscle impression; *bc*, beak cavity; *lat*, lateral hinge tooth; *lig*, ligament; *lun*, lunule; *pami*, posterior adductor muscle impression; *pc*, normal posterior pseudocardinal; *pl*, pallial line; *prpmi*, posterior retractor pedis muscle impression; *u*, umbo.

\* Figures are all  $\frac{1}{2}$  natural diameter.

## NOTES ON PRIORITY OF PLANT NAMES.

J. A. NIEUWLAND.

The following names of families taken mostly from the Flora of Anjou, 1827, by Desvaux must be given priority over such as are now accepted or in cases where the names are not different, they should be accredited to that author rather than to the ones who have hitherto been considered as their authors. I shall lay stress only on those ending in *aceae*, such being commonly held to. Desvaux has, however, others which by right of priority should be used, though prejudice has kept many botanists nowadays from using names not ending in *aceae*.

*Monotropaceae* Desv., 1827, p. 172, instead of Lindley, 1836.

*Rhamnaceae* Desv., 1827, p. 355, instead of Dumortier, 1851.

*Polygalaceae* Desv., 1827, p. 333, instead of Reichenbach, 1828.

*Salicariaceae* Desv., 1827, p. 320, instead of *Lythraceae*, Lindley, 1836.

*Saxifragaceae* Desv., 1827, p. 312, instead of Dumortier, 1829.

*Berberidaceae* Desv., 1827, p. 293, instead of Torrey and Gray, 1858.

*Apocynaceae* Desv., 1827, p. 188, instead of Lindley, 1836.

*Jasminaceae* Desv., 1827, p. 187 (188 in Index), instead of *Oleaceae* Lindley, 1836.

*Gentianaceae* Desv., 1827, p. 184, instead of Dumortier, 1829.

*Polygonaceae* Desv., 1827, p. 127, instead of Lindley, 1836.

*Daphnaceae* Desv., 1827, p. 176, instead of Reichenbach, 1828.

*Oenotheraceae* Desv., 1827, p. 318, antedates *Onagraceae* Dumortier, 1829. Both must yield to *Epilobiaceae* Vent, 1799.

Among the principal names not ending in *aceae* antedating those now held are the following of Desvaux, *Violineae*, *Cistineae*, *Dioscorineae*, *Portulacineae*, *Opuntiateae*, (*Opuntiaceae* in Index).

Heister in 1755\* first published the name *Malvaceae* for the Mallow family, and that too fifteen years before Necker's publication and two years antedating Zinn.† The name *Liliaceae* Heister, 1755, antedates the publication of Zinn.†

\* Heister, L., Beschreibung eines Neuen Geschlechts Africkanischen Pflanze (*Brunsvigia*). Braunschweig, 1755., p. 16.

† See Am. Mid. Naturalist., Vol. I., p. 112.

## II.—OUR SONG BIRDS.

BY BROTHER ALPHONSUS, C. S. C.

## CATBIRD.

*Dumetella carolinensis.*

The Catbird, I think, may be placed next to the Brown-Thrasher as a songster. But it often mars its singing by introducing a cat-like call. Sometimes, however, the bird will sing without a discord. The catbird is an accomplished mimic, and often imitates other birds' notes to a nicety.

## INDIGO BIRD.

*Passerina cyanea.*

Among the sweetest of all our song birds is this beautiful little blue bird. During the hot days of July, when most other birds are seldom heard, this charming songster will sing almost continuously, at the edge of some wood. The song gradually ceases towards the middle of August.

## BROWN THRASHER.

*Toxostoma rufum.*

The Brown Thrasher is our finest song bird. On its arrival, sometimes as early as April 10, the bird begins to sing. Perched in a tree top and in full view of the observer, the Thrasher will pour forth melody that, for richness and variety, is unsurpassed by any other of our birds. The Thrasher stops singing about the first of July.

## BLUEBIRD.

*Sialia sialis.*

The first note of early spring is the sweet warble of the Bluebird. The last week of February is sure not to pass without the arrival of the first Bluebirds, whose soft call-notes are heard as the birds fly or rest at the edge of some wood. A few days later, the Bluebirds' notes fill the fresh spring air.

## BALTIMORE ORIOLE.

*Icterus galbula.*

The loud, whistling notes of the Baltimore Oriole are very conspicuous in May and June. Feeding in the tree tops, the bird will often stop to utter one or more of its rich notes. There is

considerable variety in the song of the male, and the same clear tones in the voice of the female. Most of the summer, a few notes may be heard, delivered in a less forcible manner.

RED-WINGED BLACKBIRD.

*Agelaius phoeniceus.*

The notes of this blackbird are clear and melodious, but have little variety. The bird's habitat is in swampy places, where its song may be heard a great way off. After the nesting season, the song is seldom heard, but a shrill whistle is given for a longer time.

(To be continued.)

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EDITORIAL.

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THINGS NEW AND OLD.

On more than one previous occasion we have found that so called discoveries of our time had really been originally made several centuries ago. There has come to our notice now a work on "The Law of Sex-determination and Its Practical Application," by Laura A. Calhoun,\* which may again illustrate the fact. Mrs. Calhoun has had much experience in California in breeding animals and proposes a theory of conditions that determined the sex of offspring. She proposed as the principal thesis the following:

"The sex of the embryo in man and the higher animals is determined in the ovary from which the ovum in question is developed. In the normal female, the ovary of the right side yields ova which on fertilization develop as males and the ovary of the left side yields ova which are potentially female."

Commenting on this, David Starr Jordan\* states that "from this arises the practical deduction that sex can be determined at will through the service of gravitation. For the prospective mother to lie on the right side should ensure male offspring. To allow the spermatic fluid to flow to the left side means female offspring." Other theories of telegyny are proposed more or less scantily supported by facts. We have other theories with

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\* The Law of Sex-Determination and Its Practical Application", Laura A. Calhoun. The Eugenic Publishing Company, New York.

\* Science, Vol. XXXIII., No. 846, p. 429., Friday, March 17, 1911.

not a few facts to support them more or less plausibly, but we do not think this the place to discuss others. Regarding the main thesis of Mrs. Calhoun we do not, moreover, pretend to make either adverse or favorable comment, as we dare not even hope to feel competent in expressing as much as a valuable opinion.

On first reading of it, however, we were forcibly reminded of the opinions and theories and beliefs of the older scientists of the middle ages, nowadays called "dark ages," more or less appropriately and truly, if not more likely, because we are at present so hopelessly 'in the dark' concerning the great men, and their great scientific attainments. It is fair to say that whenever and wherever careful scientific observation without the aid of machines, microscopes and the like, were not indispensable, the great students of former ages even decades of centuries ago were as capable of careful investigation as we of to-day. True, their interpretation was often wrong, but they have often shown themselves our superior also, because looking only for truth and a solution of problems, they approached a subject with an unprejudiced attitude of mind. There are, for instance, not many astronomers of to-day that could have made Galileo's discoveries with his instruments and under similar restrictions. Theophrastus of Eresus several centuries before the Christian Era knew things about plants that we have been till very lately attributing to the discoverers of the seventeenth and eighteenth and nineteenth century. Many are still wont to consider that little of scientific value was done before the eighteenth century in biology, and that, the exponents of earlier ages were theorists and dreamers only.

This condition of opinion may be due partly because few of our times can or do read the Greek or Latin treatises of the older scholars. I have heard it said that there are many scientists now flourishing doctor's degrees that owing to lack of classical training not only would not compare with scholars of old, but would scarcely qualify for bachelor's degrees in any European University of the 'dark ages,' whatever be the reason why the older masters of science are unknown there can at best be very poor excuses for the fact.

In looking over a review of Mrs. Calhoun's book, I remembered an old work of the thirteenth century printed in 1662 at Amsterdam, containing a theory not much unlike the present



one. I refer to a small treatise by Albertus Magnus, the eminent professor of St. Thomas Aquinas. It is entitled *De Secretis Mulierum item de Virtutibus Herbarum, Lapidum et Animalium*, etc. Bound in the same volume is a similar treatise, *De Secretis Naturae*, by Michael Scotus. In the latter are found nearly the same discussions, though with important modifications as the quotations show. In spite of our want of appreciation of theories of the thirteenth century, a theory of the twentieth is not a jot more useful, true, or important unless based more solidly on facts. The following quotations from the aforesaid works of Albertus and Scotus may in any case prove of interest.

"Et nota secundum Avicennam, si semen cadit in latere sinistro matricis, generatur foemella, si in dextro, generatur masculus."\* "Et ideo in dextro generantur masculi, etc, etc."†

It will be noted too that this theory of sex-determination is attributed by Albertus to the Arabian philosopher, Avicenna. Whenever quotation is made due credit is always given by the ancient scientists, but gives examples of observed facts when he makes a modification in this old theory. Compare the following from Michael Scotus.

"In latere dextro dicimus quod masculus concipitur and in sinistro foemina, ut quidam volunt: nos vero dicimus quod latus non facit ex toto, sed semen testiculi, quia de dextro, exit masculus, and de sinistro foemina, etc. etc."

Then follows a practical observation and proof for what he says.

Scotus beside this devotes two chapters to the subject of sex-determination. (Chaps. XVI., XVII.), Albertus also has a special chapter VIII. on the subject. Scotus intimates that there have been exceptions to the theory.‡

That there are some ideas on sex-determination which can hardly be viewed by us as anything but absurd maybe admitted, but in view of the striking similarity of the views expressed in these quotations with those of Mrs. Calhoun and professor Jordan, we are justified in believing that were the scientists of to-day better acquainted with the works of the distant past less time would be lost in rediscovering things old.

\* Albertus Magnus. L. C. p. 96. Compare also p. 103.

† l. c. p. 97.

‡ Scotus, M. *De Secretis Naturae*. pp. 266, 267.



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